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Preface

During twenty years of lecturing on the design of structural elements, I have often been asked to recommend a suitable textbook on the subject. There are several excellent books available dealing individually with the design of structural members in either timber, concrete, masonry or steel. However, books that deal with the design of structural elements in all four materials are scarce. This is particularly so at present, probably because of the changes that have taken place in recent years to British Standards related to structural engineering. It is for this reason that I decided to write this manual.

My primary aim has been to provide a single source of information for students who are new to the topic. In doing so, I have concentrated on the behaviour and practical design of the main elements that comprise a building structure, and have included plenty of worked examples. Therefore the book should prove useful not only to students of structural and civil engineering, but also to those studying for qualifications in architecture, building and surveying, who need to understand the design of structural elements.

The manual is divided into five chapters: general matters, timber, concrete, masonry and steel. Each chapter provides practical guidance on the design of structural elements in accordance with the appropriate British Standard or Code of Practice. However, this manual is not intended to be an exhaustive explanation of the various design codes – although some readers may find it a useful introduction to those codes.

I have been fortunate during thirty years in structural engineering to have received help and guidance, both directly and indirectly, from people too numerous to mention here. This manual is therefore intended, in some small way, to redress the balance by offering assistance to anyone wishing to learn the principles of structural element design. I hope that it will be a source to turn to for help as a student and a friend for reference when one has gained experience and confidence.

In conclusion, I must acknowledge the invaluable assistance received from certain people in particular. I am indebted to Francis Myerscough for the thorough way he read through the draft and for his pertinent comments. Special thanks are due to Sue Dean who somehow managed to decipher the scribble and turn it into a typed manuscript. Last, but certainly not least, I am grateful to my wife and family for their patience and support during the months of writing.

Trevor Draycott